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ABSTRACT

The primary purpose of this project was to demonstrate an effective model for selected preservice and inservice training of classroom teachers in the utilization of career education. Project activities included providing a three-day intensive experience in career education to ninety classroom teachers. Another activity was to provide a three-day intensive experience in career education for 100 preservice students in the elementary and secondary education departments of Auburn University School of Education. Evaluation of the levels of knowledge about career education acquired by participants indicated significant gains by both inservice and preservice groups. It was noted that the inservice groups made a more significant gain than the preservice. Participation appears to have made a meaningful impact on their respective classrooms. When asked if they had adopted the Career Education Learning Center's idea in the classroom, 50 percent responded positively. All participants rated the materials provided them in the workshop at least somewhat helpful. (The pretest/posttest is appended.) (LRA)

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ED189444

CAREER EDUCATION CENTER FOR THE PRE-SERVICE AND IN-SERVICE TRAINING OF CLASSROOM TEACHERS.

SCHOOL OF EDUCATION
AUBURN UNIVERSITY
AUBURN, ALABAMA

CE026 105

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MAJOR ACTIVITIES

Introduction

The primary purpose of the project was to demonstrate an effective model for selected pre-service and inservice training of classroom teachers in the utilization of Career Education. Generally, the Career Education Center assisted participants in becoming more knowledgeable about the concept of Career Education and its application to the classroom in experiencing samples of specific career education strategies, and in developing certain strategies which participants could use to incorporate career education into their actual classrooms or prospective classrooms.

Major activities of this project were conducted to meet the primary and general purposes of the project and the process objectives outlined in the original project proposal. Process objectives from the original proposal are outlined below:

1. To provide pre-service instructional programs for prospective teachers and in-service instructional programs for practicing teachers to enable them to attain the knowledge, skills, and experience, of incorporating career education strategies into instructional programs in their prospective or actual classrooms.
2. To provide pre-service and in-service teachers with experiences, processes, materials, and techniques for incorporating the career education concept into their classrooms.
3. To provide to all participants experiences which will heighten their awareness of sex, race, and cultural stereotyping in career planning.

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4. To provide to all participants experiences which will heighten their awareness of the relationship between self-concept development and career development.
5. To provide to all participants a working knowledge of decision making models and skills.
6. To provide detailed reports of program development, use and values, and to disseminate these reports to interested institutions, agencies, organizations, and others throughout the State and Nation.
7. To provide a thorough evaluation of the Career Education Center.

Project Management

The School of Education at Auburn University and the Continuous Professional Development Program (CPDP) served as primary contractors and coordinators of the Career Education project. This arrangement provided office space within the CPDP facilities for centralized project activities. These facilities provided office space for the Director of the Project; and personnel who supplied equipment, supervised, and coordinated the required project; duplication needs; fiscal accounting; and communication network. CPDP staff assisted project staff as needed. Auburn University's School of Education assumed all fiscal and legal responsibility for project activities.

Description of the CPDP

The Continuous Professional Development Program evolved from a set of resolutions passed by the Alabama State Board of Education on January 25, 1972. The intent of these resolutions was to improve the quality of education by increasing the competence of educators. Specific resolutions call for:

(1) the Improvement of required staff development for all certified personnel; (2) the establishment of competency-based education at the pre-service and inservice levels; (3) the improvement of cooperative efforts among educational agencies; (4) the performance evaluation of graduates of schools of education; (5) the establishment of the first year of teaching as an internship; and (6) the expansion of research in solving problems in education.

Presently, the purpose of the CPDP is to facilitate opportunities designed to develop and maintain feasible strategies for: (1) the discharge of shared responsibilities for teaching education, both pre-service and inservice and; (2) the improvement of related support services which advance the quality of education with the consortium. Throughout its existence, the efforts and resources of the CPCP have been directed for the achievement of the following specific objectives: (1) to cooperatively make available to first year employees, professional services designed to enhance the probability of successful role performances; (2) to assist the LEA's in planning and implementing system wide and consortium wide professional development programs; (3) to utilize knowledge and information gained from the implementation of the total program as resources for the improvement of the teacher preparation program at Auburn University; (4) to cooperatively develop viable models for assisting consortium members to fulfill successfully their responsibility with respect to the improvement of the quality of educational delivery systems within the public schools of the consortium.

The CPDP participants believe achievement of the aforementioned objectives can best be accomplished through the joint efforts of all agencies involved.

Thus, pre-service and in-service education have become a continuous developmental process with representatives from all agencies participating at all levels of training.

Having successfully operationalized the original goals of the CPDP, the members are currently expanding professional development opportunities, developing cooperative support systems for education and disseminating the CPDP cooperative model to other consortia in Alabama.

Professional opportunities for classroom teachers within the consortium were expanded through the development of the Auburn Teacher Center which began operation in 1977. The Center is designed to meet the needs of teachers in the areas of classroom management; individualizing instruction; and teacher-made materials, using a process, content and product format. The process used in the center allows simulation of classroom activities using management processes varying from straight lecture discussion with media to complete individualization. The Teacher Center model was considered as a viable vehicle for the training of in-service and pre-service teachers in Career Education concepts and practices. Therefore, based on this model of the Auburn Teacher Center a Career Education Center for the training of in-service and pre-service teachers was developed to achieve the objectives of this project.

Initial activities for the project included those which would facilitate preparation for workshops for pre-service and in-service teachers. Major activities included: (1) Staff identification and orientation; (2) Developing, collecting, and identifying materials and resources; (3) Developing training procedures and content for the Career Education Center; (4) Selecting participants; (5) Conducting workshops for in-service teachers; (6) Conducting workshops and classes for pre-service teachers.

The most important beginning task to implement the training objectives of the project was to identify materials, techniques, and processes for career education relevant to each subject area in the public schools curriculum. To accomplish this task three Graduate Research Assistants (GRA's) were employed. One from each of the Departments of Counselor Education, Education Administration and Vocational Education. Working together with professional staff of the Career Education Center, GRA's identified and collected relevant career education and other pertinent, germane materials. In addition, materials were categorized and listed according to potential use for participants and prepared for dissemination.

Instructional Plan of Operation for Career Education Center

This project took advantage of an existing organization structure among the Auburn School of Education, the Alabama State Department of Education, and ten public school districts located in Lee and four additional contiguous counties. As stated previously, the purpose of this program, entitled the Continuous Professional Development Program (CPDP) is to facilitate opportunities designed to develop and maintain feasible strategies for (1) the discharge of shared responsibilities for teacher education both pre-service and inservice; and (2) the improvement of related support services which advance the quality of public education within the consortium. The program is now in its sixth year of operation and is an integral part of the School of Education. It is governed by a policy-making board composed of the superintendents of the ten local school districts, the State Superintendent of Education, and the Dean of Auburn's School of Education.

The consortium has established a centralized bidding system for instructional and maintenance supplies and has developed a centralized media system

which contains audio-visual resources cooperatively selected and purchased by the CPDO members.

During 1975-76, professional development opportunities were expanded through the development of a "teacher center." This Center provides a five-day experience in which experienced teachers from the consortium and students in the elementary and secondary school curriculum in the School of Education learn more about classroom management and individualizing classroom instruction.

The Career Education project has become an additional component of this functioning consortium. The instructional or training plan of operation was structured to provide a three-day intensive experience in Career Education to ninety classroom teachers from the CPDP consortium. Another task was to provide a three-day intensive experience in Career Education to 100 pre-service students in the elementary and secondary education departments of Auburn University School of Education. In order to use the already existing organization and structure provided by the CPDP Auburn Teacher Center, Career Education components had to be translated into similar procedures and practices as "Learning Centers".

The general purpose of the Career Education Center was to assist participants in becoming more knowledgeable about the concept of career education and its application to the classroom, to experience samples of specific career education strategies, and to develop certain strategies which participants can use to incorporate career education into their classrooms. More specific goals were the following:

1. To provide a program for participants to attain the knowledge, skill, and experience for incorporating career education strategies into instructional programs in their classrooms
2. To provide for participants, experiences with processes, materials, and techniques for incorporating the career education concept into their classrooms
3. To provide for participants, experiences to heighten awareness of sex, race, and cultural stereotyping in career planning
4. To provide for participants, experiences to heighten awareness of the relationship between self-concept development and career development
5. To provide an opportunity for participants to develop a working knowledge of decision-making models and skills
6. To provide an opportunity for participants to participate in sample career education strategies related to stereotyping, self-concept development, and decision-making
7. To provide an opportunity for participants to develop specific strategies in the areas of stereotyping, self-concept development, and decision-making for use in their individual classrooms, and to receive feedback on strategies developed
8. To provide an opportunity for participants to develop a specific lesson plan for their classrooms which will acquaint their students with occupations and the world of work, and which will relate subject matter to the work people do, occupations they are a part of, and the careers of which they are comprised.

In order to accomplish the above goals, the following four centers were developed within the entire Career Education Center.

CAREER EDUCATION AND INFORMATION

STEREOTYPING

SELF-CONCEPT DEVELOPMENT

DECISION-MAKING

During the three days of training, participants had the opportunity to participate in each of the four centers. Approximately three hours were allocated for participants in each center.

The basic activities which were incorporated into the stereotyping, self-concept development, and decision-making centers included the following:

(1) Presentation on specific concept concerned within each center

(2) Actual participating in sample strategies

(3) Review of other related strategies

(4) Discussion of strategies, questions and answers

(5) Development of strategies for use in participant classroom

(6) Discussion and feedback on the strategies developed by participants.

In the career education and information center, participants reviewed career materials and then developed, with guidance, a lesson plan which related the subject matter taught to the work people do, and the occupations and careers of which they are a part.

In summary, the Career Education Center was designed in such a manner that the major outcome or product of the experience for each participant was a comprehensive package of career education strategies, including curriculum units incorporating career education concepts into the regular classroom experiences of school learners, and specific strategies in the areas of stereotyping, self-concept development, and decision-making.

Activities Related to Process Objectives for In-service Teachers

1. To provide a three-day intensive experience in career education to ninety classroom teachers from the CPDP consortium.

   Each of the ten school districts involved in the CPDP consortium with the Alabama Department of Education and Auburn University selected nine teachers to participate in this project. Teachers were selected on the basis of teaching assignment at the elementary level (3), middle-junior high level (3), and high school (3). Three workshops were planned to include three teachers representing each of the three levels from each system. Thirty in-service teachers comprised the participants of each of the three workshops. All participants were released from regular classroom duties for the three days to come to Auburn University to participate in the Career Education Center.

2. To provide in-service teachers with experiences, processes, materials and techniques for incorporating the Career Education concept into their classrooms.

   The emphasis in the training and instructional approach in this project was experimentally based to 90 inservice classroom teachers. The "Career Education Center" utilized the learn by doing strategy which was already operating in the CPDP Auburn Teacher Center. This process included a brief didactic introduction to concepts, process, and materials. Techniques were then employed which required the participants to experience the process or technique by actually participating in the activity. This was then followed by a critical examination of the experience by the participants together with the Center leader. Leaders at each Career Education Center also demonstrated how materials could be

developed at low cost. This was accomplished by participants actually developing materials during the time participants utilized each of the Career Education Centers.

3. To provide to all participants experiences which will heighten their awareness of sex, race, and cultural stereotyping in career planning.

To provide participants with experiences which heightened their awareness of the relationship between self-concept development and career development. To provide participants with a working knowledge of decision-making models and skills.

Activities Related to Process Objectives for Pre-Service Teachers

1. To provide pre-service instructional programs for prospective teachers to enable them to attain the knowledge, skill and experience of incorporating career education strategies into instructional programs in their prospective classrooms.

The Career Education Center provided an experimentally based training program to 137 pre-service education majors during the 1977-78 academic year. These teacher education students were enrolled in the elementary, secondary, and vocational education departments of Auburn University School of Education.

All students entering the School of Education during their junior and/or sophomore years at Auburn are required to enroll in an orientation course. During the academic year 1977-78, 73 of these students were invited to participate in the Career Education Center during the fall, winter and spring quarters. All students registered for 2 hours of credit in a course entitled Career Exploration.

Teaching and training responsibilities were shared among the professional members of the staff together with one of the three graduate teaching assistants.

A Model For Developing Teacher Objectives

The primary purpose of the project was to demonstrate an effective model for selected pre-service and in-service training of classroom teachers in the utilization of Career Education. The evaluation is both summative and formative and takes place at two levels: 1) participants outcomes and; 2) impact on participants' classrooms. The preparation of career education specialists who could adminster, supervise, or serve as consultants in a public school career education program was not the goal of this project. Other projects for counselors or vocational educators were already conducted in the state of Alabama for that purpose.

The staff for the Career Education Center included professionals from the areas of Counseling and Guidance, Vocational Education and Educational Leadership. While there were some differences of opinion about the meaning of career education the staff agreed that the U.S.O.E. definition was acceptable. Therefore, the concepts and elements adopted by the Career Education Center was that presented by U.S.O.E.

The Career Education staff understood and agreed that the U.S.O.E. definition stresses that career education is much broader than preparation for one's vocation. It implies that schooling can provide some specific knowledge and can contribute to the development of certain skills which are related to the learner's needs in performing various life roles. Education, therefore, it is assumed, will be more closely related to life, the world outside the classroom.

These understandings and certain programmatic considerations at the Career Education Center at Auburn University lead to the following assumptions and limitations affecting Career Education planning for in-service and pre-service teachers:

1. Career education in the public schools should be accomplished by infusion in regular classrooms and not taught as a separate subject.
2. Knowledge and skills can be developed by classroom teachers through an intensive learn by doing approach to provide teachers with the necessary competencies.
3. It is possible to identify and describe the competencies needed by teachers to infuse career education into their current offerings.
4. The list of career education teacher competencies should be kept as brief and manageable as possible.

The next task for the Career Education staff was to agree on a working definition of teacher competency. For the project, a teaching competency in career education is defined as "a conceptualization by some authority about what effective teachers do as a professional effort to facilitate the attainment of the objectives of career development for their pupils". The word "do" in the definition implies action based on knowledge and attitudes.

Learner Outcomes

The definition of "teacher competency" requires a knowledge of "objectives of career development". These are stated by the U.S.O.E. and by those who are considered authorities/researchers in career development theory. For this project, consideration was given to the research of the University of Missouri group headed by Norman Gysbers; the research of the University of Georgia Center for Career Education; and the nine learner outcomes of the U.S.O.E. as stated by Hoyt-AN INTRODUCTION TO CAREER EDUCATION.

Generic Teacher Competencies

The next stage of this project was to list and describe the generic competencies needed by classroom teachers (1-12) who are expected to assist learners to acquire the career development outcomes.

An underlying assumption of the following generic competencies is the term "assist" which includes one or more of the following general teaching competencies:

1. determines the needs of the learner
2. plans activities for the learner
3. selects or develops appropriate material for instruction
4. employs a variety of evaluative procedures appropriate to the situation; and
5. utilizes feedback to improve the teachers professional competence.

Paralleling four major areas of the K-12 Career Education model presented by U.S.O.E., the following four "Career Education Student Learner Outcomes" were prepared. These outcomes were later translated into learning centers in order to adapt to the teacher center model which was already in existence. The following "Career Education Centers" were developed by the entire Career Education Center staff:

1. Career Education and Information
2. Decision-Making
3. Self-Concept Development
4. Stereotyping

In preparation to conduct the career education workshop the career education staff worked diligently to identify, adapt, or develop materials which would provide adequate samples of experiences to be conducted in each center.

Caution was exercised to ensure that those samples selected could be implemented and the process replicated in a way that would involve little or no cost to the teachers or school system.

Instructional Procedures

All workshop participants received a two-hour presentation on the U.S.O.E. Career Education concept. This presentation consisted of one-hour lecture and a one-hour film. In addition, each participant was given a learning module for the purpose of providing added content relative to the concept of and implementation of career education.

After this time the participants were divided into groups according to grade level to go through the career education learning centers. A description of each center follows with an explanation of the content and activities of each.

Decision-Making Activities as Related to Specific Objectives

To familiarize participants with the concept and importance of decision-making in career development, participants were presented a mini-lecture on decision-making as related to career choice. By group process, participants developed two sample decision-making strategies to facilitate student understanding of the decision-making process. A discussion and review of related strategies, followed by a question and answer period, enabled participants to design and implement two decision-making strategies, appropriate to student age and level, for use in the classroom. To encourage implementation in the classroom, these strategies were discussed and feedback was provided.

Self-Concept Activities as Related to Specific Objectives

To familiarize participants with the development of self-concept in children and its relationship to career choice, participants were presented a

mini-lecture on "Self-Concept and Career Development." By group process, participants developed a simple strategy designed to facilitate self-awareness by children. A discussion and review of related strategies followed by a question and answer period, enabled participants to become proficient in designing and using strategies, appropriate to student age and level for use in the classroom. To encourage implementation in the classroom, these strategies were discussed and feedback was provided.

Stereotyping Activities as Related to Specific Objectives

To heighten awareness of race, sex, and cultural stereotyping in career choices, participants heard a mini-lecture and viewed a slide/tape presentation on stereotyping as related to career planning. Additionally, related strategies were reviewed to familiarize participants with the concept of stereotyping as related to career planning. A discussion and question and answer period enabled participants to design and implement two stereotyping strategies appropriate to student age and level for use in the classroom. To encourage implementation in the classroom, these strategies were discussed and feedback was provided.

Career Education and Information Activities as Related to Specific Objectives

To acquaint participants with selected commercial materials related to career education and development, use of the following materials was demonstration:

SRA Occupational Index

Films and filmstrips

Department of Labor, Dictionary of Occupational Titles

Occupational Outlook Handbook

Job Encyclopedias

State of Alabama Career Education Curriculum Guides

Bibliographical and other references

Teacher made materials were displayed and discussed to create an awareness of materials that could be developed for classroom use. To encourage implementation in the classroom, participants developed two teaching strategies and were provided feedback on these strategies.

10. PROJECT PARTICIPANTS

One-hundred and thirty-seven pre-service participants were selected from a group of teacher education juniors and sophomores at Auburn University who were registered for the Foundations of Education Course, "Theories of Learning," and the Interdepartmental Education course, "Career Exploration." The equivalent of three full days (twenty-four class hours) of time was set aside by the course instructors and during this time the pre-service teachers completed the "Career Education Center" experience. Classes with an equal number of students from all School of Education departments were selected.

Based on the participant criteria listed in the proposal, the ten participating CPDP school districts began a screening and selection process of teachers in their districts. Each system identfied nine classroom teachers in the content areas of language arts, science, social studies and math from a variety of grade levels (See participant list in Appendix 10).

Each system sent three teachers per session with sessions being held on November 28-30, 1977, December 12-14, 1977, and January 16-18, 1978. A total of 30 in-service teachers attended each three-day training session. The ninety in-service participants were approved by the ten superintendents who represent the schools involved in the CPDP consortium with the Alabama State Department of Education and the School of Education, Auburn University. An equal number of elementary, middle school, junior high, and senior high teachers were selected to participate. The project arranged for the hiring of substitutes to replace the teachers for the three days they participated in the "Career Education Center". The geographic area from which the teachers came is basically rural and is characterized by: low socio-economic status; high unemployment; high drop out rates; and a large percentage (40%) of minority students.

All of the schools represented by these teachers have limited financial resources and have not been able to devote much attention to the training of teachers in career education. They also suffer from lack of non-classroom specialists such as counselors. Therefore, career education activity in most schools is at a very low level.

A total of seventy-six (76) classroom teachers completed the training. Training took place in the three-day intensive workshops. Activities were scheduled during this period between the hours of 8:00 a.m. and 3:00 p.m. allowing one hour each day for lunch. Training time totaled (18) eighteen hours of training.

11. EVALUATION

Knowledge about career education existed at five levels in this career education project.

1. Knowledge of the concept of career education as presented by the U.S.O.E.
2. Knowledge of how sex role and race stereotyping impact on career development of children
3. Knowledge of how self-concept development is related to career development
4. Knowledge of how the decision-making process impact on career development
5. Knowledge of resources which might offer assistance with the infusion of career education in the classroom.

To determine the level of knowledge about the elements of career education before and after training (pre-post) a teacher made test was developed. The forty-five item instrument included equal numbers of questions relative to the five areas listed above.

A major outcome objective of the career education project was to facilitate the development of a more positive attitude toward the use of career education in the classroom. To measure participants attitudes before and after training (pre-post) a semantic differential was employed. Five "concepts" were identified for the scales.

An additional major outcome objective for this project was to have the training experience of teachers have an impact on their actual classroom. In order to evaluate the impact the training had on teaching public school pupils in the ten school consortium, a questionnaire was developed

by the career education staff. The questionnaire contained items to evaluate the experience at four levels:

1) the extent to which career education activities existed in the classroom before and after training
2) the extent to which the materials provided participants during the workshops were useful
3) the extent to which center developed methods of introducing career education concepts in the classroom were useful
4) the extent to which the knowledge gained by participants was shared with other teachers through in-service activities.

Results and Data Analysis

Evaluation of the levels of knowledge about career education acquired by participants indicate significant gains by both in-service and pre-service groups. As might be expected pre-post total scores were significantly different. When analyzing the results no attempt was made to isolate the five different areas of the test namely: 1) career education concepts 2) information 3) self concept 4) decision-making and 5) sex role and race stereotyping rather total scores were used in the analysis (see Appendix 4). It is, however, interesting to note that the in-service group made a more significant gain than the pre-service group; that is, for both pre-service and in-service, there does not seem to be a difference between pre and post testing. However, on both the pre and post testing the in-service group seems to score significantly higher than pre-service. When evaluating the attitudes of participants before and after training as measured by the semantic differential some change can be observed.

Semantic Differential

Appendices 1-6 present data from the semantic differential analysis. The first five show relative responses between the pre-service and in-service samples as well as between pre- and post-test, and difference scores. Each of the five variables presented in the semantic differential are shown separately on each table.

Appendix 6 compares pre- and post-test scores for each of the five semantic variables by total population. That is, pre-service and in-service groups are combined as one population for this analysis. These data present mean, S.D.'s, and correlations between pre- and post-, and tests between pre- and post- by semantic variable.

Concerning the first five appendices, there seems to be very little difference between the two samples (pre-service vs. in-service) when pre-test scores, post-test scores, and difference scores are compared. None of the fifteen ANOVA's performed (3 per semantic variable) produced any signficant results. It is easy to conclude that the two samples (pre-service and in-service) responded in terms of semantic space to each stimulus relatively the same. This is true during the pre- as well as the post-administration. The reader should keep in mind that we are not comparing the gain from pre- to post-, but simply the difference between the samples at each testing point. However, it should be pointed out that for each semantic variable and for each sample (pre-service and in-service separately), there was a gain in responses between pre-testing and post-testing. This relationship is more evident in Appendix 6 which compares difference between pre- and post-testing by total population.

For each of the five semantic variables, the post-test mean increased over the pre-test mean. Of these five increases, all but "Decision-Making for Careers" showed gains which were significant. One may conclude that for the

remaining four, the attitude toward these variables increased significantly between the pre- and post-testing. Appendix 6 also presents data concerning the correlation between the pre- and post-scores by variable. All correlations are in the moderate range (.42 to .58) and significant at P .001. This would indicate that as the pre-test scores vary, so do the post-scores, or as one increases so does the other.

When evaluating the impacts that training had on participant knowledge of career education, the impact as participant classroom results indicate a positive change. Appendix 4 shows the responses for the first 5 items on the career education questionnaire. These items have a "before" and "after" response section. The scale is so constructed that a one (1), is more positive than a three (3), etc. For each item, a move toward the positive side is shown with the largest gain being for item number one. It should also be pointed out that a four point scale was utilized for the responses, therefore, a gain of over one point is quite significant. The overall gain is .87 as an average of the five items.

Participants also appear to have made a meanful impact on their respective classrooms. When asked if they had adopted the learning centers idea in the classroom 50% responded positively.

All participants rated the materials provided them in the workshop at least somewhat helpful. Sixteen (43.2%) rated the materials very helpful. Fifteen (40%) rated them helpful, and six (16.2%) somewhat helpful.

The impact on the school and the school system also seem to be positive. Thirty-two (86.5%) had shared the materials received in the workshop with other teachers. While four (21.1%) had planned and conducted a local inservice activity centering on career education.

The Career Education questionnaire was developed to evaluate the extent in-service teachers incorporated career education activities in their actual classrooms before and after attending the Career Education Center (Appendix 13). Seventy-six, or 84% of the total, in-service participants were selected to respond to the questionnaire. Those participants selected were mailed questionnaires with a self-addressed stamped envelope for easy return. Thirty-seven or 49% completed questionnaires were received by returned mail.

The selection process was designed to sample teachers from each participating school system. Also, attempts were made to receive responses from teachers who represented the various grade levels and subject areas.

Results from an analysis of the responses indicate that there were positive change among teachers in their usage of career education concepts in the classroom before and after attending the Career Education Center. Teachers responding to the questionnaire (37) reported that there was an increase in the inclusion of career education activities in their daily lesson plans subsequent to attending the Career Education Center. Teachers also indicated that lesson plans more frequently included planned activities designed to increase students awareness of sex and race stereotyping, self-concept and role of decision-making when studying careers.

In-service teachers were also asked to evaluate the materials provided them during training in the Career Education Center. Of those teachers responding, 43% indicated that the materials were very helpful; 41% rated them helpful; 16% rated them only somewhat helpful. There were no instances of negative evaluation. Teachers were also asked if they had shared the materials with other teachers in their schools. Of those teachers responding,

87% indicated that the materials were shared with other teachers at the respective schools.

Various methods were used by teachers to introduce career education concepts in the classroom. While the traditional methods were used to introduce Decision-making and Self-Concept, centers and exercises were used to introduce Stereotyping. Teachers also reported that student response to the career education activities was very positive.

Career Education in the Classroom: On Site Visitation

Thirty classroom teachers were visited by staff members of the Career Education Center. Guidelines for these visits are in Appendix 11. These visits were planned based on the belief that "the proof is in the pudding." That is, if training received by teachers who participated in this project was effective, then there should be some evidence of the infusion of career education concepts in the classroom.

The most visible signs of career education in the classroom was evidenced by the presence of bulletin boards, wall posters and Learning Centers. Data collected by staff members during the on-site visitations indicate that bulletin boards were up in 14 classrooms which reflected career education. Wall posters were up in seven classrooms and six learning centers were observed. Also, samples of class assignments which were completed during the spring quarter were reviewed.

Teachers also reported that an outcome of the training received in the Career Education Center was quite incidental. That is, textbooks which are being used at the elementary and middle school levels provide career education activities at the end of each unit of study. Teachers reported that before they attended the Career Education Center they did not use any of the suggested activities. Presently teachers are making full use of these activities in the classrooms with students.

Table A presents the CMI item summary for pre and post administrations. While most of the items did in fact show increases in percent correct on the post-test, these increases were quite small. For the most part, percent correct on the pre-test was high to begin with. On only 6 of the 50 pre-test items was the percent correct less than 50 percent. Thirty-three of the pre-test items had percents correct of over 80 percent.

Close examination of the table reveals several specific items that may warrant additional attention. For example, items 13, 35, 39 and 40 were answered correctly by a very small percentage of examinees of the pre-test. These same items showed great improvement (percent answering correct) on the post-test. While no significant tests were done by items between pre and post administrations, it is highly probably that if the tests were done, the above four items would show significance.

It should also be pointed out that for some specific items, there is a large discrepancy between the number of examinees responding on the pre-post administrations. For example, item 35 on the pre-test has 75 examinees responding. The same item on the post-test has only 10 examinees responding. Since all items appear on one instrument, it must be assumed that for some reason 20 to 30 people chose not to answer this question on the post-test. Other examples are items 13, 29, 39 and 40.

ITEM SUMMARY
CMI PRE-POST ANALYSIS

Table A

	Pre-Test			Post-Test		
Item #	N	% Correct	Number Correct	N	% Correct	Number Correct
1	75	100.0	75	62	96.8	60
2	75	100.0	75	62	98.4	61
3	75	100.0	75	62	96.8	60
4	75	94.7	71	62	96.8	60
5	75	45.3	34	62	43.5	27
6	75	100.0	75	62	96.8	60
7	75	57.3	43	62	61.3	38
8	75	78.7	59	62	79.0	49
9	75	57.3	43	62	75.8	47
10	75	89.3	67	62	91.9	57
11	75	66.7	50	57	87.7	50
12	75	98.7	74	76	85.5	65
13	75	30.7	23	26	96.2	25
14	75	98.7	74	69	91.3	63
15	75	90.7	68	56	98.2	55
16	75	88.0	66	60	100.0	60
17	75	98.7	74	62	100.0	62
18	75	82.7	62	54	100.0	54
19	75	92.0	69	61	100.0	61
20	75	84.0	63	50	100.0	50
21	75	89.3	67	53	100.0	53
22	75	90.7	68	51	100.0	51
23	75	94.7	71	61	100.0	61
24	75	97.3	73	60	100.0	60
25	75	89.3	67	55	100.0	55
26	75	64.0	48	44	100.0	44
27	75	81.3	61	55	100.0	55
28	75	73.3	55	48	100.0	48
29	75	41.3	31	22	100.0	22
30	75	77.3	58	43	100.0	43
31	75	94.7	71	59	100.0	59
32	75	76.0	57	53	100.0	53
33	75	77.3	58	51	100.0	51
34	75	58.7	44	36	100.0	36
35	75	10.7	8	10	100.0	10
36	75	85.3	64	57	100.0	57
37	75	80.0	60	52	100.0	52
38	74	90.5	67	58	100.0	58
39	75	30.7	23	18	100.0	18
40	75	21.3	16	22	100.0	22
41	75	90.7	68	57	100.0	57
42	75	89.3	67	51	100.0	51
43	75	93.3	70	58	100.0	58
44	75	94.7	71	59	100.0	59
45	75	90.7	68	54	100.0	54
46	75	97.3	73	61	100.0	61
47	75	92.0	69	54	100.0	54
48	75	92.0	69	55	100.0	55
49	75	76.0	57	44	100.0	44
50	75	100.0	75	60	100.0	60

Table B represents the CMI pre-post total scores analysis. The data contained in this table is similar to the item data in Table A. For the most part, there is very little difference between pre and post CMI administrations.

The overall test means are 40.05 and 40.26 for the pre and post administrations respectively. The corresponding medians are 40.03 and 40.38. The fact that the mean and median are so close seems to indicate somewhat a normal distribution. However, the location of the distribution is on the right hand side of the scale indicating an easy test. This is reinforced when you notice that no one received a raw score of less than 30 items correct. The cumulative frequency shows you that 75 of the respondents received a total score of 38 or better on the pre and post test.

Table B

TOTAL TEST SCORE SUMMARY
CMI PRE-POST ANALYSIS
SCORE DISTRIBUTION

Score Category	Absolute Freq Pre N (N=75)	Absolute Freq Pre %	Absolute Freq Post N (N=62)	Absolute Freq Post %	Cumulative Freq (Percent) Pre	Cumulative Freq (Percent) Post
30			1	1.6		1.6
31	2	2.7			2.7	
32	1	1.3			4.0	
33	2	2.7			6.7	
34	2	2.7	1	1.6	9.3	3.2
35	2	2.7	3	4.8	12.0	8.1
36	2	2.7	2	3.2	14.7	11.3
37	5	6.7	6	9.7	21.3	21.0
38	8	10.7	4	6.5	32.0	27.4
39	7	9.3	7	11.3	41.3	38.7
40	7	9.3	8	12.9	50.7	51.6
41	10	13.3	8	12.9	64.0	64.5
42	3	4.0	5	8.1	68.0	72.6
43	11	14.7	8	12.9	82.7	85.5
44	8	10.7	3	4.8	93.3	90.3
45	1	1.3	3	4.8	94.7	95.2
46	2	2.7	2	3.2	97.3	98.4
47	2	2.7	1	1.6	100.0	100.0
		100.0		100.0		

Mean	40.05	40.26
Median	40.03	40.38
S.D.	3.69	3.69

Table C shows the results for those items on the Career Education Questionnaire which require either a YES/NO response (items 6, 8, 15, 17, 18) or scale response (items 7, 13, 14).

Table C

CAREER EDUCATION QUESTIONNAIRE RESULTS
(SELECTED ITEM RESPONSES)

Item #	Possible Response Mode											
					(Favorably)						(Negatively)	
	Yes		No		Very Helpful		Helpful		Somewhat Helpful		Not Helpful	
	N	%	N	%	N	%	N	%	N	%	N	%
6	16	50.0	16	50.0								
7					16	43.2	15	40.5	6	16.2		
8	32	86.5	4	10.8								
13					17	53.1	15	46.0				
14					10	55.6	8	44.4				
15	4	21.1	15	9.4								
17	1	16.7	5	83.3								
18	4	44.4	5	55.6								

Table D shows the responses for the first 5 items on the Career Education Questionnaire. These items have a "before" and "after" section. The scale is so constructed that a 1 is more positive than a 2; a 2 is more positive than a 3, etc. For each item, a move toward positive side is shown with the largest gain being for item #1. Please keep in mind that we only have a 4 point scale. Therefore, a gain of over 1 point is quite large. The overall gain is .87 as an average of the five items.

Table D

CAREER EDUCATION QUESTIONNAIRE ITEM RESULTS
BEFORE-AFTER ANALYSIS (Items 1-5)

	BEFORE			AFTER			DIFFERENCE
	N	X	S.D.	N	$\bar{X}$	S.D.	$\bar{X}d$
Item 1	37	2.68	0.63	37	1.57	0.65	+ 1.11
Item 2	37	3.03	0.83	37	2.16	0.60	+ 0.87
Item 3	37	2.81	0.88	37	1.95	0.71	+ 0.86
Item 4	37	2.51	1.04	37	1.70	0.66	+ 0.81
Item 5	37	2.41	0.90	37	1.73	0.56	+ 0.68
Mean		2.69			1.82		+ 0.87

NOTE:

1 = Very Helpful
2 = Helpful
3 = Somewhat Helpful
4 = Not Helpful

+ indicates change toward very helpful (positive change)

Table E shows only the significant correlations from the matrix which produced 351 correlations. It should be pointed out that based on 351 correlations, 5 percent or 18 would be expected to be significant by chance alone. Therefore, the 95 significant correlations shown on this table represent 22% more than would be expected by chance or 27%. The correlations vary a great deal in terms of magnitude and variables involved. For example, some correlations are quite low; in the .20's while others are around .50, and some as high as .60. In addition, a small proportion of the correlations are negative. The first two correlations probably provide the most relevant information. That is, pre-test scores seem to be highly correlated with post-test scores.

Table E
SIGNIFICANT CORRELATIONS BETWEEN
ALL POSSIBLE TEST
COMPONENTS

Variables	N	r	r^2	Sign
POST-TEST vs. PRE-TOTAL	60	.51	.26	.001
POST-CONT vs. PRE-CONT	159	.87	.76	.001
CE 7 vs. PRE-CONT	37	.27	.07	.051
CE 10 vs. PRE-CONT	36	.28	.08	.047
CE 17 vs. PRE-CONT	9	.58	.34	.050
CE POST 2 vs. POST-CONT	37	.32	.10	.029
CE POST 4 vs. POST-CONT	37	.31	.10	.037
CE 8 vs. POST-CONT	37	-0.59	.35	.001
CE POST 1 vs. CE PRE 1	37	.47	.22	.002
CE PRE 2 vs. CE PRE 1	37	.66	.44	.001
CE POST 2 vs. CE PRE 1	37	.36	.13	.013
CE PRE 3 vs. CE PRE 1	37	.34	.12	.020
CE 7 vs. CE PRE 1	37	.41	.17	.006
CE 9 vs. CE PRE 1	36	-0.31	.10	.033
CE 17 vs. CE PRE 1	9	.75	.56	.010
CE PRE 2 vs. CE POST 1	37	.33	.11	.023
CE PRE 5 vs. CE POST 1	37	.41	.17	.006
CE POST 5 vs. CE POST 1	37	.35	.12	.015
CE 7 vs. CE POST 1	37	.45	.20	.003
CE 9 vs. CE POST 1	36	-0.40	.16	.008
CE 13 vs CE POST 1	32	-0.32	.10	.034
CE 14 vs. CE POST 1	18	-0.43	.18	.038
CE POST 2 vs. CE PRE 2	37	.60	.36	.001
CE PRE 3 vs. CE PRE 2	37	.62	.38	.001
CE PRE 4 vs. CE PRE 2	37	.43	.18	.004
CE PRE 5 vs. CE PRE 2	37	.54	.29	.001
CE 6 vs. CE PRE 2	32	.30	.09	.047
CE 7 VS. CE PRE 2	37	.33	.11	.023
CE 8 vs. CE PRE 2	37	-0.40	.16	.008
CE 11 vs. CE PRE 2	36	-0.29	.08	.042
CE PRE 3 vs. CE POST 2	37	.38	.14	.011
CE POST 3 vs. CE POST 2	37	.48	.23	.001
CE PRE 4 vs. CE POST 2	37	.31	.10	.033
CE POST 4 vs. CE Post 2	37	.40	.16	.007
CE POST 5 vs. CE POST 2	37	.46	.21	.002
CE 6 vs. CE POST 2	32	.39	.15	.013
CE 7 vs. CE POST 2	37	.42	.18	.005
CE 8 vs. CE POST 2	37	-0.35	.12	.018
CE 11 vs. CE POST 2	36	-0.37	.14	.014
CE POST 3 vs. CE PRE 3	37	.48	.23	.001
CE PRE 4 vs. CE PRE 3	37	.69	.48	.001
CE POST 4 vs. CE PRE 3	37	.38	.14	.010
CE PRE 5 vs. CE PRE 3	37	.45	.20	.002
CE 6 vs. CE PRE 3	32	.59	.35	.001
CE 9 vs. CE PRE 3	36	-0.45	.20	.003
CE 10 vs. CE PRE 3	36	-0.38	.14	.012
CE 11 vs. CE PRE 3	36	-0.61	.37	.001
CE 12 vs. CE PRE 3	37	-0.28	.08	.050
CE PRE 4 vs. CE POST 3	37	.42	.18	.005
CE POST 4 vs. CE POST 3	37	.44	.19	.003
CE PRE 5 vs. CE POST 3	37	.30	.09	.036

CE POST 5	vs. CE POST 3	37	.31	.10	.029
CE 6	vs. CE POST 3	32	.59	.35	.001
CE 9	vs. CE POST 3	36	-0.41	.17	.007
CE 10	vs. CE POST 3	36	-0.37	.14	.013
CE 11	vs. CE POST 3	36	-0.60	.36	.001
CE 12	vs. CE POST 3	37	-0.50	.25	.001
CE POST 4	vs. CE PRE 4	37	.63	.40	.001
CE PRE 5	vs. CE PRE 4	37	.54	.29	.001
CE POST 4	vs. CE PRE 4	37	.34	.12	.020
CE 9	vs. CE PRE 4	36	-0.42	.18	.006
CE 10	vs. CE PRE 4	36	-0.51	.26	.001
CE 11	vs. CE PRE 4	36	-0.68	.46	.001
CE 12	vs. CE PRE 4	37	-0.28	.08	.049
CE 13	vs. CE PRE 5	32	0.31	.10	.041
CE POST 5	vs. CE POST 4	37	.30	.09	.035
CE 9	vs. CE POST 4	36	-0.41	.17	.006
CE 10	vs. CE POST 4	36	-0.30	.09	.036
CE 11	vs. CE POST 4	36	-0.49	.24	.001
CE 13	vs. CE POST 4	32	.33	.11	.031
CE 16	vs. CE POST 4	6	-0.76	.58	.040
CE POST 5	vs. CE PRE 5	37	.56	.31	.001
CE 11	vs. CE PRE 5	36	-0.34	.12	.020
CE 7	vs. CE POST 5	37	0.29	.08	.040
CE 9	vs. CE POST 5	36	-0.33	.11	.024
CE 11	vs. CE POST 5	36	-0.29	.08	.043
CE 17	vs. CE POST 5	9	.60	.36	.045
CE 7	vs. CE 6	32	.30	.09	.045
CE 9	vs. CE 6	31	-0.48	.23	.003
CE 10	vs. CE 6	31	-0.43	.18	.007
CE 11	vs. CE 6	32	-0.40	.16	.012
CE 12	vs. CE 6	32	-0.43	.18	.007
CE 9	vs. CE 7	36	-0.37	.14	.014
CE 16	vs. CE 7	6	.77	.59	.035
CE 17	vs. CE 7	9	.67	.45	.024
CE 11	vs. CE 8	36	.37	.14	.014
CE 10	vs. CE 9	35	.65	.42	.001
CE 11	vs. CE 9	35	.58	.34	.001
CE 12	vs. CE 9	36	.45	.20	.003
CE 11	vs. CE 10	35	.55	.30	.001
CE 12	vs. CE 10	36	.49	.24	.001
CE 12	vs. CE 11	36	.46	.21	.002
CE 14	vs. CE 13	17	.55	.30	.011
CE 15	vs. CE 13	17	-0.52	.27	.016
CE 15	vs. CE 14	18	-0.60	.36	.004

NOTE: The following variables were used in the generation of the correlation matrix:

1. Post-total =
2. Pre-total =
3. Pre-cont =
4. Post-cont =
5. CE PRE 1 to CE POST = 1st five "before" and "after" items on the Career Education Questionnaire.
6. CE 6 - Ce 14 = items 6 to 14 on the Career Education Questionnaire.

(*) Total correlation matrix produced 351 possible correlations. This table presents the 95 correlations which were significant at the .05 or less level.

Table F shows the results of two analysis of variances. These two ANOVAs were the only ones which ran. All the remaining ANOVAs only had data on one group and as a result could not be completed.

These two ANOVAs use the "pre content total score" and "post content total score" as criterion. As will be noted, the difference between groups pre-service vs. in-service was highly significant for both criterion variables. These results are obvious when you examine the relative means for each analysis. It should also be pointed out that for both cases, the in-service group scored higher.

Table F

MEANS, S.D. AND ANALYSIS OF VARIANCE
FOR PRE-SERVICE VS. IN-SERVICE ON
THE CRITERION VARIABLES OF
TOTAL PRE AND POST SCORES

VARIABLE: PRE CONTENT TOTAL SCORE

	N	Mean	S.D.	Variance
Pre-service	82	9.4634	14.4753	209.5357
In-service	77	30.9221	5.1293	26.3096
Total	159	19.8553	10.9927	

ANOVA

Source	SS	D.F.	MS	F	SIG
Between Groups	18285.75	1	18285.75	151.322	.0001
Within Groups	18971.923	157	120.840		

VARIABLE: POST CONTENT TOTAL SCORE

	N	Mean	S.D.	Variance
Pre-service	82	8.4390	14.5433	211.5086
In-service	77	32.0390	8.9933	80.8800
Total	159	19.8679	12.1768	

ANOVA

Source	SS	D.F.	MS	F	SIG
Between Groups	22117.148	1	22117.148	149.164	.0001
Within Groups	23279.078	157	148.274		

CAREER EDUCATION QUESTIONNAIRE
(SELECTED ITEM RESPONSES)
NUMBER OF METHODS USED IN THE INTRODUCTION
OF VARIOUS CONCEPTS IN THE CLASSROOM

		Number of Methods Used									Median	Mode
CONCEPT INTRODUCED	N	1	2	3	4	5	6	7	8	9		
ITEM 9; Decision Making	36	2	13	8	6	4	1	1	0	1	2.88	2
ITEM 10; Self Concept	36	4	10	9	4	1	3	5	0	0	2.94	2
ITEM 11; Stereotyping	36	12	6	8	1	5	2	1	1	0	2.50	1
ITEM 12; Tales	37	3	9	7	6	3	4	2	3	0	3.43	2

12. ANTICIPATED CHANGES AND/OR PROBLEMS

During the course of the project there were very few anticipated or actual problems. The only problem that arose during the course of training related to scheduling undergraduate teacher education students for the training sessions. This problem, however, was easily remedied with the assistance of the Office of the Dean and the Chairmen of the Departments of Elementary, Secondary, and Foundations of Education.

13. DISSEMINATION ACTIVITIES

Several methods of dissemination of project information were discussed and utilized during the course of the project. The following break down of the dissemination components and procedures explains their scope and nature.

Project Information Forms and Memoranda

Project information forms and memoranda were developed by the Office of the Continuous Professional Development Program and were distributed to each in-service coordinator in the consortium. In turn, the in-service coordinators distributed copies of the project information form to each principal and teacher (approximately 25,000) in the ten participating CPDP school districts. These forms provided information to prospective in-service project participants:

1. Project Title
2. Project Objectives
3. Project Schedule
4. Participant Qualifications
5. Application Directions
6. Source for Additional Information

State and Regional Career Education Conferences

The career education project at Auburn University participated in all career education mini-conferences sponsored throughout Alabama by the Office of Career Education, Alabama State Department of Education. At each of these mini-conferences the Auburn University Career Education Center staff had the responsibility of directing several presentations on the purposes, objectives, and present outcomes of the work in the Auburn University Career Education Center. A schedule of the locations, times, and university

personnel is listed below. Average attendance at these state regional meetings was estimated at 300 participants per section.

DATE	LOCATION	UNIVERSITY PERSONNEL
February 23, 1977	Cullman, Alabama	Dr. Ed Kurth
March 2, 1977	Monroeville, Alabama	Dr. Johnnie D. Little
March 7, 1977	Enterprise, Alabama	Dr. Earl Higgins
March 9, 1977	Bessimer, Alabama	Ms. Karen Smith and Ms. Arlene Zaloom
March23, 1977	Rainsville, Alabama	Dr. Ed Kurth
March 29-30, 1977	Montgomery, Alabama	Dr. Bob Mayfield Dr. Ed Kurth Dr. Earl Higgins

In addition to the aforementioned participation and representation at state conferences and workshops, Doctors Little and Higgins participated in the Southeastern Regional Career Education Conference at the University of Georgia Continuing Education Center. At this conference, Doctors Little and Higgins provided information to groups throughout the southeast concerning the training efforts of the Auburn Career Education Center.

Newletter - FOCUS

In 1975, the Continuous Professional Development Program developed a consortium newsletter, Focus, to assist in the communication of education information between and among consortium and state education agencies. The format of the publication is thematic and therefore, provided the career education project a perfect vehicle for dissemination of career education information to each professional educator in the Auburn University School of Education, The Alabama State Department of Education, and the ten participating CPDP school districts. In addition, this publication is sent to every school district in Alabama; to every Alabama State Legislator; to every Alabama

U.S. Congressman and Senator; and to all deans of colleges of education in the states of Georgia, Florida, Alabama, Mississippi, and Tennessee. A Xerox copy of the career education issue of Focus can be found in Appendix 15.

Personal Requests for Information

On a continuing basis throughout the project and to present, the Office of Continuous Professional Development Program has received requests for information concerning the Career Education Center at Auburn University. To date, we have responded positively to each and every request. Most requests received of this nature focus on "materials developed" for use in the various "learning centers" of the career education center. Copies of these instructural materials will be forwarded to persons and agencies making request until the supply is depleted.

14. SPECIAL ACTIVITIES

See major activities Section 9 and evaluation Section 11.

APPENDIX 1

DECISION MAKING FOR CAREERS

	Preservice Sample			Inservice Sample			Analysis of Variance	
	N	MEAN	S.D.	N	MEAN	S.D.	F	SIG.
PRE-TEST	25	5.48	0.46	76	5.44	0.63	0.091	0.763
POST-TEST	21	5.62	0.48	70	5.56	0.85	0.093	0.761
PRE/POST DIFFERENCE	26	0.73	2.50	76	0.32	1.75	0.851	0.359

APPENDIX 2

CLASSROOM AS A LAB FOR CAREER GUIDANCE

	Preservice Sample			Inservice Sample			Analysis of Variance	
	N	MEAN	S.D.	N	MEAN	S.D.	F	SIG.
PRE-TEST	25	5.47	0.65	74	5.52	0.84	0.095	0.759
POST-TEST	21	5.69	1.10	70	5.92	0.85	0.958	0.330
PRE/POST DIFFERENCE	26	0.66	2.75	76	0.07	1.67	2.59	0.111

APPENDIX 3

SUBJECT MATTER RELATED TO CAREER EDUCATION

	Preservice Sample			Inservice Sample			Analysis of Variance	
	N	MEAN	S.D.	N	MEAN	S.D.	F	SIG.
PRE-TEST	25	5.24	0.65	75	5.27	0.80	0.033	0.856
POST-TEST	20	5.50	1.04	64	5.53	0.92	0.014	0.905
PRE/POST DIFFERENCE	26	0.81	2.35	76	0.54	2.09	0.284	0.595

APPENDIX 4

CAREER EDUCATION

	Preservice Sample			Inservice Sample			Analysis of Variance	
	N	MEAN	S.D.	N	MEAN	S.D.	F	SIG.
PRE-TEST	25	5.40	0.63	73	5.29	1.05	0.261	0.611
POST-TEST	21	5.57	1.13	69	5.63	0.86	0.049	0.826
PRE/POST DIFFERENCE	26	0.69	2.62	76	0.03	2.31	1.756	0.188

APPENDIX 5

CAREER WOMEN

	Preservice Sample			Inservice Sample			Analysis of Variance	
	N	MEAN	S.D.	N	MEAN	S.D.	F	SIG.
PRE-TEST	25	5.42	0.62	76	5.48	0.86	0.098	0.755
POST-TEST	21	5.83	0.73	70	5.75	0.82	0.186	0.667
PRE/POST DIFFERENCE	26	0.50	2.62	76	0.18	1.72	0.492	0.485

APPENDIX 6

SEMANTIC DIFFERENTIAL
PRE-TEST VS. POST-TEST, CORRELATIONS
AND T-TEST, BY TOTAL SAMPLE
(PRESERVICE AND INSERVICE COMBINED)

	N	Pre-Test		Post-Test		Mean	Correlation		T-Test		
		Mean	S.D.	Mean	S.D.	Difference	r	Sig.	t	D.F.	Sig.
Decision Making	90	5.44	0.60	5.58	0.78	0.138	.45	<.001	1.75	89	N.S.
Subject Matter	84	5.27	0.82	5.52	0.94	0.249	.50	<.001	2.58	83	<.05
Career Woman	90	5.48	0.82	5.77	0.80	0.294	.58	<.001	3.77	89	<.001
Classroom as a Lab	90	5.48	0.82	5.89	0.89	0.408	.42	<.001	4.21	89	<.001
Career Education	86	5.29	0.99	5.62	0.93	0.337	.47	<.001	3.17	85	<.002

APPENDIX 7

Pre-test CAREER EDUCATION CENTER Post-test

School of Education

Auburn University

Define, in your own words, CAREER EDUCATION.

List the basic stages on elements of Career Education.

A course in Mathematics is providing career preparation to students in the following professional and non-professional occupations.

Professional	Non-professional

True___False___ 1. Career Education is a 20th Century version of Vocational Education.

True___False___ 2. Because a person's self-concept is dependent on so many different factors, it is difficult for any one person or circumstance to have a significant impact on the development of another self-concept.

True___False___ 3. Career education should be taught as a separate subject.

True___False___ 4. The process used in planning a vocation and the process used in planning a career are more similar than different.

True___False___ 5. A child's difficulties in basic academic skills seem to be a consequence of his beliefs about himself.

True___False___ 6. Career education is for all persons...the young, old, mentally handicapped and gifted, the poor, wealthy, males, females, students in elementary schools and graduate school.

True___False___ 7. Generating additional alternatives and information relative to a decision only complicates rather than helps the process.

True___False___ 8. Federal legislation requires a state plan for career education to be implemented by 1978.

True___False___ 9. The motive for all human behavior is to maintain and/or enhance the self-concept.

True___False___10. The reasons for entering an occupation may be related to the protection and improvement of one's self-concept.

True___False___11. One of the first steps in decision-making is awareness that a decision must be reached.

True___False___12. Career education has emerged as a response to a call for educational reform.

True___False___13. Decision-making can be seen as a strategy for acquiring and processing information.

True___False___14. Presenting vocational information through career exploration clusters is a useful way to provide career alternatives to students.

True___False___15. Persons choose an occupation that they perceive as congruent with their self-concept.

True___False___16. The beliefs one holds about oneself affects all areas in one's life.

True___False___17. Simulated experiences can facilitate a student's decision-making skills.

True___False___18. The development of self begins with birth and concepts of self continue to develop throughout life.

True___False___19. The process through which an individual moves in selecting, preparing, entering and progressing in a career is vocational development.

True___False___20. A person's values are a mediating factor in making a career choice.

True___False___21. Most women will work sometime during their lives.

True___False___22. Planning and decision-making are two independent processes.

True___False___23. Career education is best implemented by the school counselor.

True___False___24. The lack of female and minority role models has been an important factor in girls and minority students seeing only limited career possibilities.

True___False___25. One significant problem in the career development of women is that most girls and women do not engage in significant long-term career planning.

True___False___26. A student should make a final vocational choice as early as possible.

True___False___27. The primary reason that most women work is for extra money.

True___False___28. The way one views oneself bears little relationship to one's career goals and preferences.

True___False___29. Women are greater risks and costs to employers because they miss work more often and don't hold their jobs as long.

True___False___30. Black women experience more discrimination than black males or white women.

True___False___31. Decision-making is properly viewed as a developmental process.

True___False___32. A girl's college education is more often wasted than a boy's.

True___False___33. One important aspect of career development is to help a child become more aware of him/her self.

True___False___34. Disadvantaged students tend only to consider blue collar jobs as career possibilities.

True___False___35. A woman who works fulltime can not possibly be as good a mother to her grade school children as one who stays at home.

True___False___36. Sex stereotyping has not affected black women as much as it has white women.

True___False___37. The term "Career education" was first used publicly in 1971 by Sidney P. Marland, Jr.

True___False___38. The main reason women should be trained for paid employment is to provide them with a base for financial security should their husbands be unable to support them.

True___False___39. Ernest Boyer, Commissioner of Education, is often associated with the career education movement as we know it today.

True___False___40. One reason career decision-making is so important is that it involves the making of a life-time decision.

True___False___41. Men and boys have also been limited in their career possibilities due to sex stereotyping.

True___False___42. Giving feedback to the student about his decision is one of the last steps of the decision-making process.

APPENDIX 8

SYSTEM _____

Evaluation of Career Education Center

The following list of statements attempts to describe different aspects of this in-service activity. Please indicate your agreement or disagreement by circling the appropriate letters of the following scale:

SA = Strongly Agree
A = Agree
N = Neutral
D = Disagree
SD = Strongly Disagree

If you are uncertain about your opinion, decide whether it is more agree or disagree and mark the appropriate letter. Mark only one letter for each item.

1.	Generally, as a professional learning experience for me, this in-service activity was beneficial.	SA A N D SD
2.	This in-service activity was something I needed.	SA A N D SD
3.	I will be able to apply the information or insight gained in this activity to my own work.	SA A N D SD
4.	There was insufficient time to adequately complete the activities.	SA A N D SD
5.	There was enough actual involvement of participants in this activity (doing something besides just listening).	SA A N D SD
6.	The personnel who led this activity were sufficiently knowledgeable about the topic.	SA A N D SD
7.	The leadership or teaching ability of the personnel who led this activity was good.	SA A N D SD
8.	I understood the objectives of this in-service activity.	SA A N D SD
9.	This activity accomplished the objectives set for it.	SA A N D SD

Process

1. Do you feel it would be of value to other teachers in your school or system to experience the process of going through the Career Education Center?

   a. What do you particularly like about the process (and environment)?

   b. What do you particularly dislike about the process (and environment)?

   c. What changes would you suggest relative to the process (and environment)?

   d. If you were responsible for the instruction format of the Career Education Center, how would you change it?

Content

2. Do you feel it would be of value to teachers in your system to study the content contained in the Career Education Center?

   a. What content do you feel is particularly pertinent?

   b. What would you delete or change in the present content areas?

Materials

3. Were appropriate materials made available for you to make Career Education learning aids for your classroom?

4. Were appropriate ideas presented to stimulate your thinking in the area of Career Education learning aids for your classroom?

5. Was the media (overheads, tapes, movies, slides) used helpful/ appropriate?

Final Questions:

6. If you had an opportunity to participate in other activities similar to this one, would you want to do so?

7. If you were to tell the other teachers/administrators in your system about this experience, what kinds of things would you say to them?

APPENDIX 9

PERSONAL DATA

1. Name:_____ Social Security Number _____

2. Home address: _____ Home phone: _____

_____

3. School _____

4. Position _____

5. Grade-level(s) _____

6. Are you teaching "in-field"? Yes _____

No _____

7. Education - Please list all institutions for both undergraduate and graduate work:

Institution	Dates of attendance	Degree	Major	Minor

8. Number of years of teaching experience._____

9. Professional experience - please list all professional positions held in reverse chronological order.

Position	Location (City and State)	Dates in Position

10. Other work experiences:

11. Briefly describe your long-term professional goals:

12. What is the primary reason for your attendance at this workshop?

13. Briefly describe your experience to date with career education.

14. What are your personal objectives for this workshop?

15. What does your school expect from your attendance at this workshop?

Sex

Male____
Female___

Age

Under 25_____
25-30_____
31-35_____
36-40_____
41-45_____
46-50_____
51-55_____
Over 55_____

APPENDIX 10

INSERVICE PARTICIPANTS
CAREER EDUCATION CENTER
NOVEMBER 28-30, 1979

NAME	SUBJECT	GRADE	SCHOOL SYSTEM
Eddie Tolbert	Math	9th	Alexander City Schools
Joyce Robinson	Librarian	2nd	Alexander City Schools
Phillip Robinson	World History	10th	Alexander City Schools
Eleanor Harris	Home Economics	9-12	Auburn City Schools
Vicky Handley	self contained	4th	Auburn City Schools
Andy LaMar	Social Studies	7th	Auburn City Schools
Gladys Callahan	Social Studies (self contained)	3rd	Chambers County Schools
Jean Henry	Social Studies	7th	Chambers County Schools
George Thornton	Social Studies	9th	Chambers County Schools
Rosa Barrow	English	9-12	Lanett City Schools
Wendy Campbell	self-contained	1-4	Lanett City Schools
Karen Barnes	self-contained	5-8	Lanett City Schools
Susan Parker	self-contained	1st	Lee County Schools (Beulah)
Austin Gay	English	Jr. High	Lee County Schools (Sanford)
Dorothy Strickland	History	Sr. High	Lee County Schools (Smiths Stations)
Roberta Johnson		6th	Macon County Schools (LAS)
Dorothy Robinson	Home Economics	5-8	Macon County Schools (TPS)
Dorothy Clayton	Language Arts	8-9	Macon County Schools (DCW)
Rita Grayson		3rd	Opelika City Schools
Faye Cashion		5th	Opelika City Schools
Evelyn Tanja		5th	Opelika City Schools
Debra M. Helton	Elem	2 & 3rd	Phenix City Schools
Lovic P. Hodnette	Science	8th	Phenix City Schools
Kandy K. DeKing	Math	9th	Phenix City Schools
Pamela Manning	Special Education	9-12	Russell County Schools
Atleana Arnold	S.S. and Phys. Ed.	7-9	Russell County Schools
Virginia Price	Social Studies	7-9	Tallapoosa County Schools
Frances Holley	S.S., Science, & Math.	3rd	Tallapoosa County Schools
Linda Davis	Social Studies	7-9	Tallapoosa County Schools

Career Education Center Workshop December 12-14, 1977

NAME	SUBJECT	GRADE	SCHOOL SYSTEM
Susan Stearns	Math and S.S	3rd	Alexander City Schools
Cathy Spires	Social Studies	8th	Alexander City Schools
Lou Fuller	Language Arts	11th	Alexander City Schools
Cynthia Boyd		5th	Auburn City Schools
Laura Allen		6th	Auburn City Schools
Ernestine Evans	English & Math	9-12	Auburn City Schools
Katie Walton	Social Studies	4th	Chambers County Schools
Barbara Huguley	Social Studies	7th	Chambers County Schools
Kathryn Childers	Social Studies	H.S	Chambers County Schools
LaRue Allen	Science	9-12	Lanett City Schools
Ruth Johnson		1-4	Lanett City Schools
Nancy Womack	Counselor	5-8	Lanett City Schools
Sue McGonegle		1st	Lee County Schools (Smiths Elementary)
Anna Dunn	Math	8th	Lee County Schools (Sanford)
Anna Boulware	English	Sr. High	Lee County Schools (Loachapoka)
Clarice Moore	Biology	10th	Macon County Schools (TIHS)
Chris Abbay	Humanities	9-12	Macon County Schools (NSHS)
Mary Foster	Media	1-8	Macon County Schools (CE)
Donna K. Quedens	Elem	4 & 5	Phenix City Schools
Vera L. Ramsey	Social Studies	6th	Phenix City Schools
Elizabeth B. Binnings	Biology	9 & 10	Phenix City Schools
Elnora Gamble		3rd	Russell County Schools
Carolyn Lacy		1st	Russell County Schools
Julia Williams	Social Studies	7-9	Tallapoosa County Schools
Linda Scroggins	Science	10-12	Tallapoosa County Schools
Carolyn Fuller	self contained	2nd	Tallapoosa County Schools

APPENDIX 11

Career Education Project
Guidelines for Conducting on Site Visitations

1. Ask questions about questionnaire
   a. Was it sent - returned
   b. Did you understand it
   c. How do you feel about career education.

2. Look for Career Education infusion in the classroom
   a. Bulletin boards/wall posters
   b. Learning Centers

3. What special assignments and/or projects have you designed for children relative to Career Education?

4. Have you used the strategies you developed in the workshop?

5. What other activities have you been involved in relative to career education with students?
   Examples: Career day Field trips Other
   Speakers Assembly

6. Are other teachers/administrators introducing career education in their classroom/school?

APPENDIX 12

DEMOGRAPHIC CHARACTERISTICS OF INSERVICE PARTICIPANTS

SEX:	Male	15	19.7%
	Female	61	80.3%
AGE:	Under 25	40	40.0%
	25-30	21	21.0%
	31-35	18	18.0%
	36-40	6	6.0%
	41-45	5	5.0%
	46-50	5	5.0%
	51-55	4	4.0%
	Over 55	1	1.0%
GRADE:	K to 3	15	20.3%
	4 to 8	35	47.3%
	9 to 12	24	32.4%
SCHOOL:	Alex City	9	11.8%
	Auburn	8	10.5%
	Chamber Co.	10	13.2%
	Lanett	6	7.9%
	Lee Co.	6	7.9%
	Macon Co.	8	10.5%
	Opelika	5	6.6%
	Phenix City	10	13.2%
	Russell Co.	5	6.6%
	Tallapoosa Co.	9	11.8%
HIGHEST DEGREE:	BA - BS	43	57.3%
	Masters	30	40.0%
	6th Year	2	2.7%
YEARS EXPERIENCE:	0 to 5	34	45.3%
	6 to 10	30	40.0%
	11 to 15	4	5.3%
	16 to 20	2	2.7%
	21 to 25	2	2.7%
	26 to 30	2	2.7%
	Over 30	1	1.3%

DEMOGRAPHIC CHARACTERISTICS OF INSERVICE PARTICIPANTS

EXPERIENCE OTHER THAN CLASS TEACHING:	Education	20	43.5%
	Skilled	6	13.0%
	Unskilled	6	13.0%
	Professional	4	8.7%
	Sales	4	8.7%
	Clerical	4	8.7%
	Nursing	8	4.3%
EXPERIENCE WITH CAREER EDUCATION:	Yes	26	35.1%
	No	48	64.9%
EXPECTATIONS FROM SCHOOL:	Sharing with teachers	36	54.5%
	Incorp. concepts	12	18.2%
	In-service	2	3.0%
	None	8	12.1%
	Other	5	9.1%

APPENDIX 13

Career Education Questionnaire

Demographic Information

School _____ Grade Level _____
Subject Taught _____

Workshop attended (Please check one) Nov. 28-30____ Dec. 12-14____ Jan. 16-18____

Circle you answer for both "Before" and "After"

1. What was your level of understanding of Career Education before and after participation in the project?
   (1) Extensive (2) Moderate (3) Little (4) None

Before	After
1	1
2	2
3	3
4	4

2. To what extent did you include Career Education activities in your daily lesson plan or curriculum?
   (1) Extensive (2) Moderate (3) Little (4) None

Before	After
1	1
2	2
3	3
4	4

3. To what extent did you include activities in your class to make students aware of sex and race stereotyping?

   (1) Extensive (2) Moderate (3) Little (4) None

Before	After
1	1
2	2
3	3
4	4

4. To what extent did you include activities in your class to make students aware of self concept?
   (1) Extensive (2) Moderate (3) Little (4) None

Before	After
1	1
2	2
3	3
4	4

13. How did your students respond to the concept of Career Education?

Favorably	Somewhat Favorably	Somewhat Negatively	Negatively
_____	_____	_____	_____

14. How did your students respond to the Career Education activities conducted in the classroom?

Favorably	Somewhat Favorably	Somewhat Negatively	Negatively
_____	_____	_____	_____

Comments:

Inservice

15. Have you planned and conducted an inservice around Career Education?
Yes_____ No_____

16. If yes, briefly discribe what type.

17. If yes, did you provide leadership for the program?
Yes_____ No_____

18. If no, did you bring in a consultant?
Yes_____ No_____

19. What activities worked best for you and your students?

20. What activities were difficult to implement?

21. Which printed materials were most helpful to you and/or other teachers?

22. What additional information would be helpful to you?

APPENDIX 14

CAREER SEMANTIC DIFFERENTIAL

The purpose of this activity is to measure the meanings of certain concepts related to the incorporation of Career Education in the classroom by asking you to judge them against a series of descriptive scales. On each page you will find a different concept in parenthesis to be judged and beneath it a set of scales. You are to rate each concept on each of these scales.

Here is how you are to use the scales:

If you feel a particular concept is very much like one end of the scale, you should place your check mark as follows:

PLEASANT X : ___ : ___ : ___ : ___ : ___ : ___ :UNPLEASANT

-or-

PLEASANT ___ : ___ : ___ : ___ : ___ : ___ : X :UNPLEASANT

If you feel a particular concept is quite closely like one or the other end of the scale (but not extremely), you should place your check mark as follows:

RUGGED ___ : X : ___ : ___ : ___ : ___ : ___ :DELICATE

-or-

RUGGED ___ : ___ : ___ : ___ : ___ : X : ___ :DELICATE

If you feel a particular concept is only slightly like one end as opposed to the other end (but is not really neutral), then you should check as follows:

SHARP ___ : ___ : X : ___ : ___ : ___ : ___ :DULL

-or-

SHARP ___ : ___ : ___ : ___ : X : ___ : ___ :DULL

If you consider the concept to be neutral on the scale (both sides of the scale equally associated with the concept) or if the scale is completely irrelevant (unrelated to the concept) then you should place your check mark in the middle space.

HAPPY ___ : ___ : ___ : X : ___ : ___ : ___ :SAD

The direction toward which you check, of course, depends upon which of the two ends of the scale best describes your feeling about each concept.

Do not worry or puzzle over any one scale. It is your first impression that we want - your immediate feeling about each concept. On the other hand, please do not be careless, because we want your true impressions. Do not try to remember how you may have checked similar items earlier in the scale. MAKE EACH ITEM A SEPARATE AND INDEPENDENT JUDGEMENT.

Remember, you are judging the concept as <u>you</u> see it -- not what we think or what others think.

IMPORTANT: (1) Place your check marks in the middle of the spaces, not on the boundaries:

THIS NOT THIS

(2) <u>BE SURE TO CHECK EVERY SCALE: DO NOT OMIT ANY.</u>

(3) <u>NEVER PUT MORE THAN ONE CHECK MARK ON A SINGLE SCALE</u>.

Thank you for your cooperation, now please continue with the next page.

LARGE	_____:_____:_____:_____:_____:_____:_____:	SMALL
UNPLEASANT	_____:_____:_____:_____:_____:_____:_____:	PLEASANT
FAST	_____:_____:_____:_____:_____:_____:_____:	SLOW
DULL	_____:_____:_____:_____:_____:_____:_____:	SHARP
THIN	_____:_____:_____:_____:_____:_____:_____:	THICK
HAPPY	_____:_____:_____:_____:_____:_____:_____:	SAD
WEAK	_____:_____:_____:_____:_____:_____:_____:	STRONG
GOOD	_____:_____:_____:_____:_____:_____:_____:	BAD
MOVING	_____:_____:_____:_____:_____:_____:_____:	STILL
UNFAIR	_____:_____:_____:_____:_____:_____:_____:	FAIR
PASSIVE	_____:_____:_____:_____:_____:_____:_____:	ACTIVE
HEAVY	_____:_____:_____:_____:_____:_____:_____:	LIGHT

LARGE	_____:_____:_____:_____:_____:_____:_____:	SMALL
UNPLEASANT	_____:_____:_____:_____:_____:_____:_____:	PLEASANT
FAST	_____:_____:_____:_____:_____:_____:_____:	SLOW
DULL	_____:_____:_____:_____:_____:_____:_____:	SHARP
THIN	_____:_____:_____:_____:_____:_____:_____:	THICK
HAPPY	_____:_____:_____:_____:_____:_____:_____:	SAD
WEAK	_____:_____:_____:_____:_____:_____:_____:	STRONG
GOOD	_____:_____:_____:_____:_____:_____:_____:	BAD
MOVING	_____:_____:_____:_____:_____:_____:_____:	STILL
UNFAIR	_____:_____:_____:_____:_____:_____:_____:	FAIR
PASSIVE	_____:_____:_____:_____:_____:_____:_____:	ACTIVE
HEAVY	_____:_____:_____:_____:_____:_____:_____:	LIGHT

CAREER EDUCATION

LARGE	____:____:____:____:____:____:____:	SMALL
UNPLEASANT	____:____:____:____:____:____:____:	PLEASANT
FAST	____:____:____:____:____:____:____:	SLOW
DULL	____:____:____:____:____:____:____:	SHARP
THIN	____:____:____:____:____:____:____:	THICK
HAPPY	____:____:____:____:____:____:____:	SAD
WEAK	____:____:____:____:____:____:____:	STRONG
GOOD	____:____:____:____:____:____:____:	BAD
MOVING	____:____:____:____:____:____:____:	STILL
UNFAIR	____:____:____:____:____:____:____:	FAIR
PASSIVE	____:____:____:____:____:____:____:	ACTIVE
HEAVY	____:____:____:____:____:____:____:	LIGHT

APPENDIX 15

SUBJECT MATTER RELATED TO CAREER PREPARATION

LARGE	_____:_____:_____:_____:_____:_____:_____:	SMALL
UNPLEASANT	_____:_____:_____:_____:_____:_____:_____:	PLEASANT
FAST	_____:_____:_____:_____:_____:_____:_____:	SLOW
DULL	_____:_____:_____:_____:_____:_____:_____:	SHARP
THIN	_____:_____:_____:_____:_____:_____:_____:	THICK
HAPPY	_____:_____:_____:_____:_____:_____:_____:	SAD
WEAK	_____:_____:_____:_____:_____:_____:_____:	STRONG
GOOD	_____:_____:_____:_____:_____:_____:_____:	BAD
MOVING	_____:_____:_____:_____:_____:_____:_____:	STILL
UNFAIR	_____:_____:_____:_____:_____:_____:_____:	FAIR
PASSIVE	_____:_____:_____:_____:_____:_____:_____:	ACTIVE
HEAVY	_____:_____:_____:_____:_____:_____:_____:	LIGHT

CAREER WOMAN

LARGE	_____:_____:_____:_____:_____:_____:_____:	SMALL
UNPLEASANT	_____:_____:_____:_____:_____:_____:_____:	PLEASANT
FAST	_____:_____:_____:_____:_____:_____:_____:	SLOW
DULL	_____:_____:_____:_____:_____:_____:_____:	SHARP
THIN	_____:_____:_____:_____:_____:_____:_____:	THICK
HAPPY	_____:_____:_____:_____:_____:_____:_____:	SAD
WEAK	_____:_____:_____:_____:_____:_____:_____:	STRONG
GOOD	_____:_____:_____:_____:_____:_____:_____:	BAD
MOVING	_____:_____:_____:_____:_____:_____:_____:	STILL
UNFAIR	_____:_____:_____:_____:_____:_____:_____:	FAIR
PASSIVE	_____:_____:_____:_____:_____:_____:_____:	ACTIVE
HEAVY	_____:_____:_____:_____:_____:_____:_____:	LIGHT